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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/865,018 | 05/24/2001 | Joan Massague | GPCI-P08-079 | 4669 |

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ROPES & GRAY
ONE INTERNATIONAL PLACE
BOSTON, MA 02110-2624

| EXAMINER |
|---|
| HAYES, ROBERT CLINTON |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1647 | 9 |

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

| Application No. | Applicant(s) |
|---|---|
| 09/865,018 | Massague et al |
| **Examiner** | **Art Unit** |
| Robert C. Hayes, Ph.D. | 1647 |

-- ***The MAILING DATE of this communication appears on the cover sheet with the correspondence address*** --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *1-35* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☐ Claim(s) _____ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☒ Claims *1-35* are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s).
4) ☐ Interview Summary (PTO-413) Paper No(s). ____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

## DETAILED ACTION

### *Election/Restriction*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claim 1, drawn to an isolated p27 protein, classified in class 530, subclass 350.

II. Claims 2-20, drawn to nucleic acids encoding a p27 protein, vectors, host cells, and methods of producing a p27 protein, classified in class 435, subclass 69.1.

III. Claims 21-22, drawn to methods of determining whether an agent can inhibit/enhance the ability of p27 protein to inhibit the activation of the cyclin E-Cdk2 complex, classified in class 435, subclass 7.8.

IV. Claims 23-28, drawn to methods of treating a patient having a hyperproliferative disorder comprising administering to the subject a therapeutically effective amount of an agent that inhibits/enhances the ability of p27 protein to inhibit the activation of the cyclin E-Cdk2 complex, classified in Class 514, subclass 2.

V. Claims 29-31, drawn to methods of diagnosing a hyperproliferative disorders/ cancer in a subject that is associated with a p27 protein mutation, classified in class 435, subclass 6.

VI. Claims 32-35, drawn to gene therapy methods of treating a subject suffering from a hyperproliferative disorder/cancer associated with p27 protein mutations comprising administering a recombinant virus capable of infecting a suitable host

cell, and pharmaceutical compositions thereof, classified in Class 514, subclass 44.

2. The inventions are distinct, each from the other because of the following reasons:

Although there are no provisions under the section for "Relationship of Inventions" in M.P.E.P. § 806.05 for inventive groups that are directed to different products, restriction is deemed to be proper, because these products appear to constitute patentably distinct inventions for the following reasons:

Groups I-II & VI are directed to products that are physically and functionally distinct; involving proteins, nucleic acids and recombinant viruses. All of these products can be prepared by different processes, such as though chemical synthesis or isolation from natural sources using various isolation/purification procedures, or through construction of recombinant viruses. For example, the proteins of Group I are fundamentally different molecules than the nucleic acid molecules of Group II, which in turn can be used to clone proteins, detect expression of the protein, or to make vaccines. The vectors and host cells of Group II are also not required in Group I, and vice versa. Thee recombinant viruses of Group VI are distinguished from the expression vectors of Group II, in that the constructs of Group VI require different promoter sequences, etc. to stably transfect eukaryotic organisms *in vivo,* versus the single propagating host cells of Group II, which include prokaryotic host cells that are not required in the invention of Group VI, and vice versa. It is pointed out that there is a proper distinction between these

groups, since each product is not required in order for the other to exist. Thereby, these groups are distinct and separable for the reasons stated.

Groups II and V-VI are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the nucleic acids of Group II can be used in materially different methods, such as to mass produce the full length protein, or to detect expression of the protein. The methods of Group V for detecting p27 mutations, or Group VI for treating hyperproliferative disorders using gene therapy, require either specific hyperproliferating tissues or cells or subjects, or appropriate vectors that integrate the DNA into the host genome, or labeled reagents to detect variations in p27 gene sequences, none of which are required in Group II.

It is noted that the methods of Groups V & VI do not require the products of Group I, and vice versa.

Although there are no provisions under the section for "Relation of Inventions" in M.P.E.P. 806.05 for inventive groups that are directed to different methods; restriction is deemed proper because these methods appear to constitute patently distinct inventions for the following reason:

Groups III-VI are directed to methods of detecting agents that bind to p27 protein or detecting mutated p27 molecules, or using p27 binding agents or gene therapy methods to treat

patients. Each of these methods require physically and functionally distinct elements. For example, the use of p27 binding agents in the methods of Groups III and IV interact with entirely different types of molecules than the nucleic acid molecules used in the methods of Groups V & VI, and vice versa; thereby, requiring different assay and search considerations. The methods for diagnosing the presence of altered p27 protein binding or mutated p27 molecules of Groups III and V, respectively, are further distinguished from the treatment methods of Groups IV and VI, in that these diagnostic methods require appropriate labeling, binding or sequencing reagents, which are not required in the methods of Groups IV and VI, and vice versa. Moreover, the methods of treating subjects with hyperproliferating disorders of Groups IV or VI require appropriate administration protocols, reagents and subjects to treat, which are not required in Groups III or V, and vice versa. These inventions are, therefore, patentably distinct, since one is not required for the other.

Because these inventions are distinct for the reasons given above, they have acquired a separate status in the art as shown by their different classification, and the non-coextensiveness of the search and examination for each group would constitute an undue burden on the examiner to search and consider all the separable groups with their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

3. Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Robert Hayes whose telephone number is (703) 305-3132. The examiner can normally be reached on Monday through Thursday, and alternate Fridays from 8:30 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Kunz, can be reached on (703) 308-4623. The fax phone number for this Group is (703) 308-4242.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Robert C. Hayes, Ph.D.
September 30, 2002